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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,053	03/09/2005	Yasuhiro Takaki	042715-5015	6840
9629	7590	05/31/2006	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			RIVERO, MINERVA	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/527,053

Applicant(s)

TAKAKI ET AL.

Examiner

Minerva Rivero

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 4-10 and 14-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 4-10 and 14-20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Wada *et al.* (US 6,532,202), hereinafter Wada.

5. Regarding claim 1, Wada discloses a wavefront aberration correcting device for correcting a wavefront aberration of light generated in an optical path of an optical system for irradiating light onto a recording medium or guiding reflected light reflected by the recording medium (Col. 12, Lines 29-40), the device comprising:

a pair of opposing transparent electrode layers provided in the optical path (Col. 13, Lines 19-22; Col. 21, Lines 7-9, see Fig. 14; Col. 22, Lines 12-16, see elements 21, 25 and 27 in Fig. 14; Col. 13, Lines 38-43); and

a liquid crystal sandwiched between the transparent electrode layers, the liquid crystal generating phase change in passing light due to voltage applied to the transparent electrode layers (Col. 13, Lines 22-23; Col. 23, Lines 22-26; Col. 22, Lines 10-13),

wherein at least one of the transparent layers is arranged on an antireflective body comprising a substrate, and a finestructure which is formed on the substrate and which has a concave-convex structure (Col. 21, Lines 14-16, see antireflective films 112-115 which have a saw-tooth structure, and substrate 20 in Fig. 14 (Col. 13, Lines 13-14); Col. 16, Lines 65-66).

6. Regarding claim 11, Wada discloses an optical pickup device comprising a light source that emits light for irradiation onto a recording medium, and an objective lens arranged between the light source and the recording medium, the objective lens converging the light from the light source onto an information recording surface of the recording medium (Col. 11, Lines 39-41; Col. 13, Lines 19-22; Col. 21, Lines 7-9, see Fig. 14; Col. 22, Lines 12-16, see elements 21, 25 and 27 in Fig. 14; Col. 13, Lines 38-43), the optical pickup device comprising:

a wavefront aberration correcting device arranged between the light source and the objective lens, the wavefront aberration correcting device comprising a pair of opposing transparent electrode layers provided in an optical path in the optical pickup device; and a liquid crystal sandwiched between the transparent electrode layers, the liquid crystal generating phase change in passing light due to voltage applied to the transparent electrode layers (Col. 13, Lines 19-22; Col. 21, Lines 7-9, see Fig. 14; Col. 22, Lines 12-16, see elements 21, 25 and 27 in Fig. 14; Col. 13, Lines 38-43; Col. 13, Lines 22-23; Col. 23, Lines 22-26; Col. 22, Lines 10-13).

wherein at least one of the transparent electrode layers is arranged on an antireflective body comprising a substrate, and a finestructure which is formed on the substrate and which has a concave-convex structure (Col. 21, Lines 14-16, see antireflective films 112-115 which have a saw-tooth structure, and substrate 20 in Fig. 14 (Col. 13, Lines 13-14); Col. 16, Lines 65-66).

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7. Regarding claim 2 and 12, discloses the concave-convex structure is formed in a one-dimensional and/or a two-dimensional shape (see antireflective films 112-115 which have a saw-tooth structure along a horizontal dimension, Fig. 14).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wada in view of Revelli, Jr. (US 5,276,745), hereinafter Revelli.

Regarding claims 3 and 13, Wada does not explicitly disclose but Revelli does disclose the concave-convex structure has a periodically changing structure, a pitch of the concave-convex structure is no more than 500 nm (*pitch is 274 nm*, Col. 16, see Fig. 9A, grating 410).

Therefore it would have been obvious to one of ordinary skill in the art at the time

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of the invention to supplement the teachings of Wada with having the concave-convex structure have a periodically changing structure, and a pitch of the concave-convex structure be no more than 500 nm, as disclosed by Revelli, in order to selectively absorb or reflect a light wave, depending on the wavelength.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Maeda *et al.* (US 6,628,599) disclose a pickup apparatus having a variable optical element.

Nishiyama *et al.* (US 6,580,674) disclose an optical head device including a phase shifter.

Ootaki *et al.* (US 6,078,554) disclose a wavefront aberration compensation unit.

Kajiyama *et al.* (US 6,552,990) disclose an optical head for two different disk thicknesses.

Kitaoka *et al.* (US 2005/0030880) disclose an optical pickup with a phase variable wave plate.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minerva Rivero whose telephone number is (571) 272-7626. The examiner can normally be reached on Monday-Friday 9:00 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MR 5/18/06



WAYNE YOUNG
SUPERVISORY PATENT EXAMINER